

## Appendix F

# Acronyms, Abbreviations, and Units

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### Acronyms (partial list)

<b>AAFC</b>	Agriculture and Agri-Food Canada
<b>ACEP</b>	Agricultural Conservation Easement Program
<b>ACT-America</b>	Atmospheric Carbon and Transfer–America program
<b>AFOLU</b>	agriculture, forestry, and other land use
<b>AIM</b>	atmospheric inverse modeling
<b>ALOHA</b>	A Long-Term Oligotrophic Habitat Assessment
<b>ALT</b>	active layer thickness
<b>ALU</b>	agriculture and land use
<b>ARCTAS</b>	Arctic Research of the Composition of the Troposphere from Aircraft and Satellites
<b>ARPA-E</b>	Advanced Research Projects Agency–Energy (DOE)
<b>ARRA</b>	American Recovery and Reinvestment Act
<b>ARS</b>	Agricultural Research Service (USDA)
<b>ATom</b>	Atmospheric Tomography Mission
<b>BATS</b>	Bermuda Atlantic Time-series Study
<b>BCS</b>	Beaufort and Chukchi Seas
<b>BECCS</b>	bioenergy carbon capture and storage
<b>BS</b>	Bering Sea
<b>C4MIP</b>	Coupled Climate–Carbon Cycle Model Intercomparison Project
<b>CAA</b>	Canadian Arctic Archipelago
<b>CAA</b>	U.S. Clean Air Act
<b>CAFC</b>	Company Average Fuel Consumption
<b>CAFE</b>	corporate average fuel economy
<b>CAIT</b>	Climate Access Indicators Tool
<b>CalNex</b>	California Research at the Nexus of Air Quality and Climate Change
<b>CAM</b>	crassulacean acid metabolism
<b>CAMS</b>	Copernicus Atmospheric Monitoring Service
<b>CanSIS</b>	Canadian Soil Information Service
<b>CARAFE</b>	CARbon Atmospheric Flux Experiment
<b>CARVE</b>	Carbon in Arctic Reservoirs Vulnerability Experiment
<b>CCAFS-MOT</b>	Climate Change, Agriculture, and Food Security–Mitigation Options Tool
<b>CCGT</b>	combined-cycle gas turbine
<b>CCIWG</b>	Carbon Cycle Interagency Working Group (USGCRP)

<b>CCS</b>	carbon capture and storage
<b>CCSC</b>	Central California Current System
<b>CCSN</b>	Northern California Current System
<b>CCSS</b>	Southern California Current System
<b>CDIAC</b>	Carbon Dioxide Information Analysis Center
<b>CDU</b>	carbon dioxide utilization
<b>CEC</b>	Commission for Environmental Cooperation
<b>CEMAC</b>	Clean Energy Manufacturing Analysis Center
<b>CFC</b>	chlorofluorocarbons
<b>CFE</b>	community forest enterprise
<b>CMIP</b>	Coupled Model Intercomparison Project
<b>CONUS</b>	conterminous United States
<b>CP</b>	certificate of possession
<b>CPP</b>	U.S. Clean Power Plan
<b>CRP</b>	Conservation Reserve Program
<b>CSKT</b>	Confederated Salish and Kootenai Tribes
<b>CSSR</b>	<i>Climate Science Special Report</i>
<b>DIC</b>	dissolved inorganic carbon
<b>DISCOVER-AQ</b>	Deriving Information on Surface Conditions from Column and Vertically Resolved Observations Relevant to Air Quality
<b>DOC</b>	U.S. Department of Commerce
<b>DOC</b>	dissolved organic carbon
<b>DOD</b>	U.S. Department of Defense
<b>DOE</b>	U.S. Department of Energy
<b>DOI</b>	U.S. Department of the Interior
<b>DOM</b>	dissolved organic matter
<b>DOS</b>	U.S. Department of State
<b>DOT</b>	U.S. Department of Transportation
<b>E10</b>	10% blended ethanol
<b>E3MC</b>	Energy, Emissions and Economy Model for Canada
<b>ECBM</b>	enhanced coal bed methane recovery
<b>EDCM</b>	Erosion-Deposition-Carbon-Model
<b>EERE</b>	Energy Efficiency and Renewable Energy (DOE)
<b>EEZ</b>	Exclusive Economic Zone
<b>EIA</b>	U.S. Energy Information Administration
<b>EISA</b>	Energy Independence and Security Act
<b>ENSO</b>	El Niño-Southern Oscillation
<b>EOR</b>	enhanced oil recovery
<b>EPA</b>	U.S. Environmental Protection Agency
<b>ESM</b>	Earth System Model
<b>ESRL</b>	Earth System Research Laboratory (NOAA)

<b>EU</b>	European Union
<b>ExACT</b>	Ex-Ante Carbon-balance Tool
<b>FACE</b>	Free-Air CO <sub>2</sub> Enrichment
<b>FAO</b>	Food and Agriculture Organization
<b>FFC</b>	fossil fuel consumption
<b>FIA</b>	Forest Inventory and Analysis
<b>FLFL</b>	forestland remaining forestland
<b>FOLU</b>	forestry and other land use
<b>FTS</b>	Fourier Transform Spectrometer
<b>FVS</b>	Forest Vegetation Simulator
<b>GAK</b>	Gulf of Alaska
<b>GCP</b>	Global Carbon Project
<b>GCRA</b>	Global Change Research Act
<b>GDP</b>	gross domestic product
<b>GEMS</b>	General Ensemble Biogeochemical Modeling System
<b>GeoCARB</b>	Geostationary Carbon Cycle Observatory
<b>GHG</b>	greenhouse gas
<b>GIS</b>	geographic information system
<b>GMx</b>	Gulf of Mexico
<b>GOM</b>	Gulf of Maine
<b>GOSAT</b>	Greenhouse Gases Observing Satellite
<b>GPP</b>	gross primary production
<b>GRACEnet</b>	Greenhouse gas Reduction through Agricultural Carbon Enhancement network
<b>GStL</b>	Gulf of St. Lawrence and Grand Banks
<b>GWP</b>	global warming potential
<b>HB</b>	Hudson Bay
<b>HIAPER</b>	High-Performance Instrumented Airborne Platform for Environmental Research
<b>HIPPO</b>	HIAPER Pole-to-Pole Observations
<b>LAGOS</b>	In-service Aircraft for a Global Observing System
<b>IAM</b>	integrated assessment model
<b>IASI</b>	Infrared Atmospheric Sounding Interferometer
<b>IEA</b>	International Energy Agency
<b>ILAMB</b>	International Land Model Benchmarking
<b>INFLUX</b>	Indianapolis Flux Experiment
<b>INGAA</b>	Interstate Natural Gas Association of America
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IPCC AR5</b>	Fifth Assessment Report of the IPCC; also WG1, WG2, WG3 – Working Groups 1–3
<b>IQA</b>	Information Quality Act
<b>ITC</b>	Investment Tax Credit
<b>LCOE</b>	levelized cost of energy
<b>LECZ</b>	low-elevation coastal zone

<b>LEED</b>	Leadership in Energy and Environmental Design
<b>LIDAR</b>	light detection and ranging
<b>LS</b>	Labrador Shelf
<b>LULC</b>	land use and land cover
<b>LULUCF</b>	land use, land-use change, and forestry
<b>MAB</b>	Mid-Atlantic Bight
<b>MCI</b>	Mid-Continent Intensive
<b>MIROC</b>	Model for Interdisciplinary Research on Climate
<b>MODIS</b>	Moderate Resolution Imaging Spectroradiometer
<b>MOPITT</b>	Measurements Of Pollution In The Troposphere
<b>NAA</b>	North American Arctic
<b>NAAC</b>	North American Atlantic Coast
<b>NAAEC</b>	North American Agreement on Environmental Cooperation
<b>NACP</b>	North American Carbon Program
<b>NAO</b>	North Atlantic Oscillation
<b>NAPC</b>	North America Pacific Coast
<b>NASA</b>	National Aeronautics and Space Administration
<b>NASEM</b>	National Academies of Sciences, Engineering, and Medicine
<b>NCA</b>	<i>National Climate Assessment</i>
<b>NCA3</b>	<i>Third National Climate Assessment</i>
<b>NCA4</b>	<i>Fourth National Climate Assessment</i>
<b>NCAR</b>	National Center for Atmospheric Research
<b>NDC</b>	Nationally Determined Contributions
<b>NDVI</b>	normalized difference vegetation index
<b>NECB</b>	net ecosystem carbon balance
<b>NEE</b>	net ecosystem exchange
<b>NEMS</b>	National Energy Modeling System
<b>NEON</b>	National Ecological Observatory Network
<b>NEP</b>	net ecosystem production
<b>NGHGI</b>	National Greenhouse Gas Inventory
<b>NGO</b>	non-governmental organization
<b>NICC</b>	National Indian Carbon Coalition
<b>NIFA</b>	National Institute of Food and Agriculture (USDA)
<b>NIST</b>	National Institute of Standards and Technology
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>NPP</b>	net primary production
<b>NRCS</b>	Natural Resources Conservation Service (USDA)
<b>NSA</b>	North Slope of Alaska
<b>NSF</b>	National Science Foundation
<b>NWCA</b>	National Wetland Condition Assessment
<b>NWI</b>	National Wetlands Inventory

<b>OCO-2</b>	Orbiting Carbon Observatory-2
<b>ODIAC</b>	Open-source Data Inventory for Anthropogenic CO <sub>2</sub>
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>OM</b>	organic matter
<b>OMB</b>	Office of Management and Budget (White House)
<b>OPEC</b>	Organization of Petroleum Exporting Countries
<b>OSTP</b>	Office of Science and Technology Policy (White House)
<b><i>p</i>CO<sub>2</sub></b>	partial pressure of CO <sub>2</sub>
<b>PIC</b>	particulate inorganic carbon
<b>POC</b>	particulate organic carbon
<b>POM</b>	particulate organic matter
<b>PPP</b>	purchasing power parity
<b>PPR</b>	Prairie Pothole Region
<b>PTC</b>	production tax credit
<b>PUC</b>	public utilities commission
<b>PV</b>	photovoltaic
<b>RaCA</b>	Rapid Carbon Assessment
<b>RCP</b>	Representative Concentration Pathway
<b>RD&amp;D</b>	research, development, and demonstration
<b>RE</b>	renewable energy
<b>RECCAP</b>	Regional Carbon Cycle Assessment and Progresses
<b>REDD+</b>	Reducing Emissions from Deforestation and Forest Degradation
<b>RPR (also R/P)</b>	reserve-to-production ratio
<b>RUBISCO</b>	ribulose-1,5-bisphosphate carboxylase oxygenase
<b>SAB</b>	South Atlantic Bight
<b>SCB</b>	Southern California Bight
<b>SD</b>	standard deviation
<b>SE</b>	standard error
<b>SGCR</b>	Subcommittee on Global Change Research (National Science and Technology Council, White House)
<b>SGP</b>	Southern Great Plains
<b>SI</b>	International System of Units
<b>SIF</b>	solar-induced fluorescence
<b>SMR</b>	small mountainous river
<b>SOC</b>	soil organic carbon
<b>SOCCR1</b>	<i>First State of the Carbon Cycle Report</i>
<b>SOCCR2</b>	<i>Second State of the Carbon Cycle Report</i>
<b>SOM</b>	soil organic matter
<b>SPRUCE</b>	Spruce and Peatland Responses Under Changing Environments
<b>SRES</b>	<i>Special Report on Emissions Scenarios</i> (IPCC, 2000)
<b>SS</b>	Scotian Shelf

<b>SSP</b>	Shared Socioeconomic Pathway
<b>SSURGO</b>	Soil Survey Geographic database
<b>STATSGO</b>	State Soil Geographic database
<b>TBM</b>	terrestrial biosphere model
<b>TCCON</b>	Total Carbon Column Observing Network
<b>TCU</b>	tribal colleges and universities
<b>TOC</b>	total organic carbon
<b>TransCom</b>	Atmospheric Tracer Transport Model Intercomparison Project
<b>UCAR</b>	University Corporation for Atmospheric Research
<b>UHI</b>	urban heat island
<b>UN</b>	United Nations
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>USAID</b>	U.S. Agency for International Development
<b>USDA</b>	U.S. Department of Agriculture
<b>USFWS</b>	U.S. Fish and Wildlife Service
<b>USGCRP</b>	U.S. Global Change Research Program
<b>USGS</b>	U.S. Geological Survey
<b>VOC</b>	volatile organic compound
<b>WRI</b>	World Resources Institute

**Abbreviations and Units** (partial list)

<b>C</b>	carbon	<b>μm</b>	micrometer
<b>CaCO<sub>3</sub></b>	calcium carbonate	<b>μmol</b>	micromole
<b>C<sub>2</sub>H<sub>6</sub></b>	ethane	<b>MMT</b>	million metric ton
<b>CH<sub>4</sub></b>	methane	<b>mol</b>	mole
<b>CO</b>	carbon monoxide	<b>MT</b>	metric ton
<b>CO<sub>2</sub></b>	carbon dioxide	<b>MW</b>	megawatt
<b>CO<sub>2</sub>e</b>	carbon dioxide equivalent	<b>N</b>	nitrogen
<b>CO<sub>3</sub><sup>2-</sup></b>	carbonate ion	<b>NH<sub>3</sub></b>	ammonia
<b>COS</b>	carbonyl sulfide	<b>N<sub>2</sub>O</b>	nitrous oxide
<b>°C</b>	degrees celsius	<b>NO<sub>x</sub></b>	nitrogen oxides
<b>g</b>	gram	<b>OH</b>	hydroxyl radical
<b>Gt</b>	gigaton	<b>Pg</b>	petagram
<b>GW</b>	gigawatt	<b>ppb</b>	parts per billion
<b>ha</b>	hectare	<b>ppm</b>	parts per million
<b>H<sub>2</sub>CO<sub>3</sub></b>	carbonic acid	<b>SF<sub>6</sub></b>	sulfur hexafluoride
<b>HCO<sub>3</sub><sup>-</sup></b>	bicarbonate ion	<b>SO<sub>x</sub></b>	sulfur oxides
<b>J</b>	Joule	<b>Tg</b>	teragram
<b>kg</b>	kilogram	<b>W</b>	watt
<b>μatm</b>	microatmosphere		